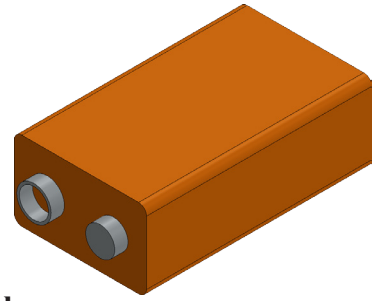




# Solar Car Battery 9 Volt



## A. Battery.

Step 1. Click File Menu > New, click **Part** and OK.

Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 1**.

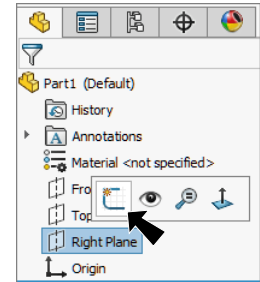


Fig. 1

Step 3. Click **Corner Rectangle**  (S) on the Sketch toolbar.

Step 4. Sketch a rectangle starting at the Origin , **Fig. 2**.

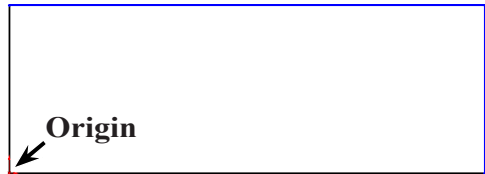


Fig. 2

Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Add dimensions, **Fig. 3**.

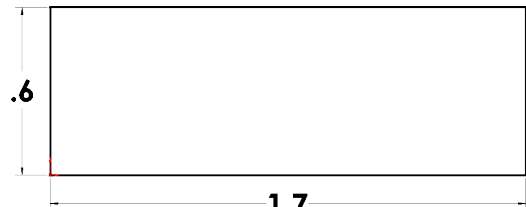


Fig. 3

Step 7. Click **Features**  on the Command Manager toolbar.

Step 8. Click **Extruded Boss/Base**  on the Features toolbar.

Step 9. In the Boss-Extrude Property Manager set:  
under Direction 1, **Fig. 4**

End Condition **Mid Plane**

Depth  1

click OK .

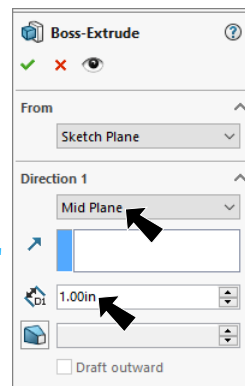


Fig. 4

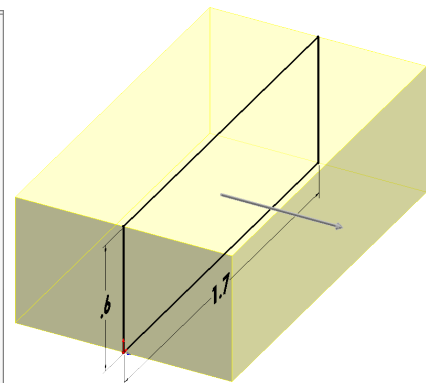


Fig. 5

## B. Save as "BATTERY 9 VOLT".

Step 1. Click File Menu > Save As.

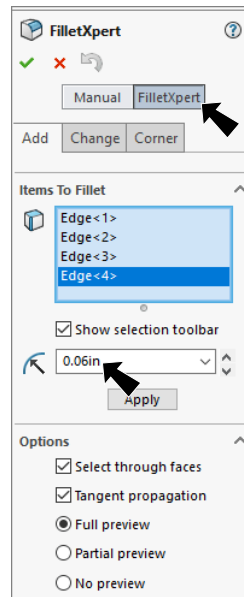
Step 2. Key-in **BATTERY 9 VOLT** for filename and press ENTER.

## C. Fillets.

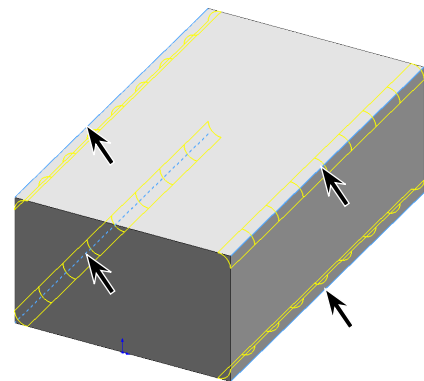
Step 1. Click **Fillet**  on the Features toolbar.

Step 2. In the Fillet Property Manager set:  
select **FilletXpert**, **Fig. 6**

**Radius**  **.06**  
click the **4 edges**, **Fig. 7**  
click **OK** .




**Fig. 6**



**Fig. 7**

## D. Terminals.

Step 1. Click the **front face** of the battery  
and click **Sketch**  on the context toolbar, **Fig. 8**.

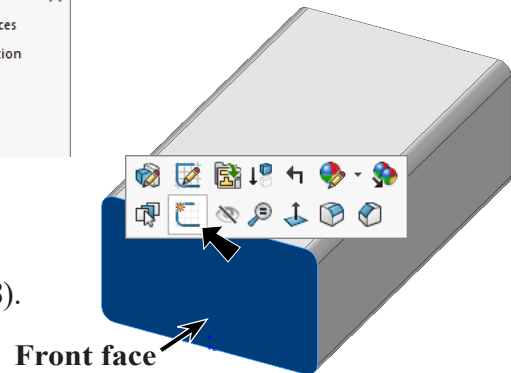
Step 2. Click **Normal To**  on the Views toolbar (**Ctrl-8**).

Step 3. Click **Circle**  (**S**) on the Sketch toolbar.

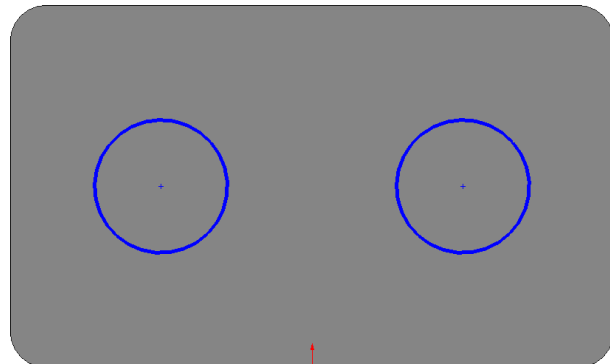
Step 4. Sketch two circles for the battery terminals, **Fig. 9**.

Step 5. Click **Smart Dimension**  (**S**) on the Sketch toolbar.

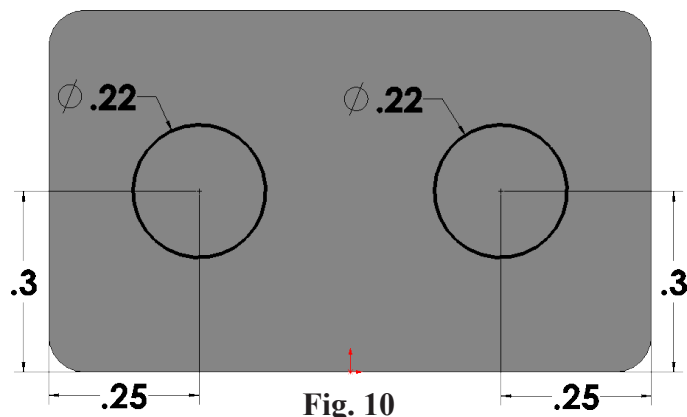
Step 6. Add dimensions, **Fig. 10**.



**Fig. 8**



**Fig. 9**



**Fig. 10**

## E. Offset Entities.

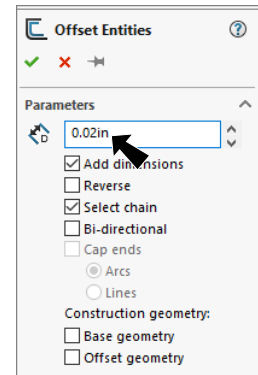
Step 1. Click **Offset Entities**  on the Sketch toolbar.

Step 2. In the Offset Entities Property Manager set:  
under Parameters, **Fig. 11**

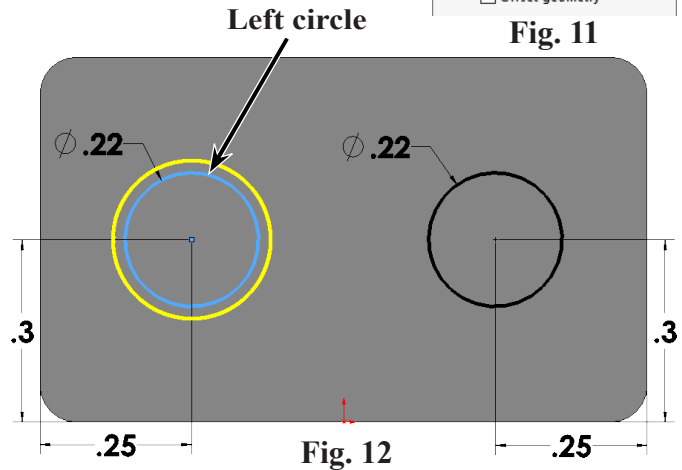
**Distance**  **.02**  
click **left circle** in sketch, **Fig. 12**

The yellow offset should be outside the original green circle, **Fig. 12**.  
If it is not, check **Reverse**.

Click OK  .



**Fig. 11**



**Fig. 12**

## F. Extrude Terminals.

Step 1. Click **Trimetric**  on the Standard Views toolbar.

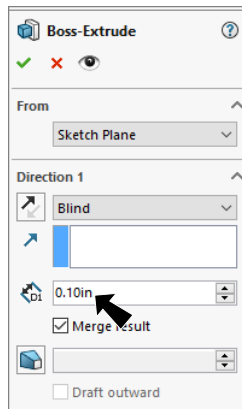
Step 2. Click **Features**  on the Command Manager toolbar.

Step 3. Click **Extruded Boss/Base**  on the Features toolbar.

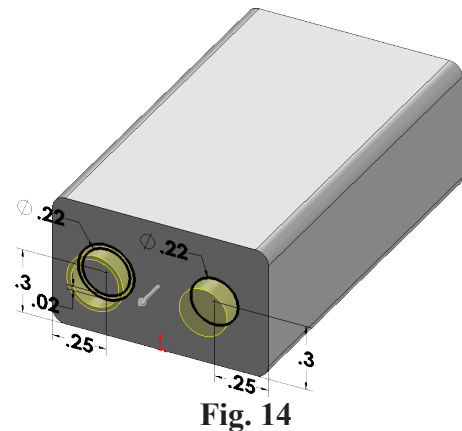
Step 4. In the Boss-Extrude Property Manager set:  
under Direction 1, **Fig. 13**

**Depth**  **.1**  
click OK  .

Step 5. Save. Use **Ctrl-S**.





**Fig. 13**



**Fig. 14**

## G. Battery and Terminals Appearance.

Step 1. Click the **top face** of the battery to select the part, click **Appearance Callout**  on the context toolbar and click **BATTERY...** , Fig. 15.

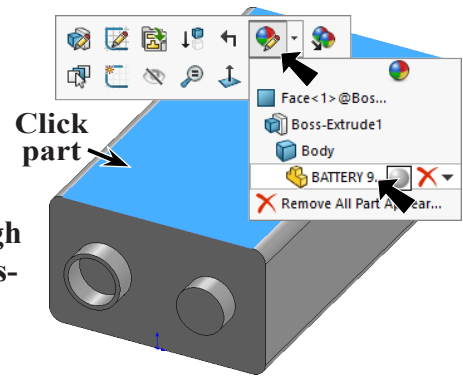





Fig. 15

Step 2. In the Appearances Task pane, expand **Plastic**, click **High Gloss** and in the lower pane select **white high gloss plastic**, Fig. 16.

Step 3. Back over in the Appearances Property Manager, under Color, Fig. 17 click **Orange** swatch.

Click **Keep Visible**  and OK . The Push Pin  on allows selection of another appearance for terminals.

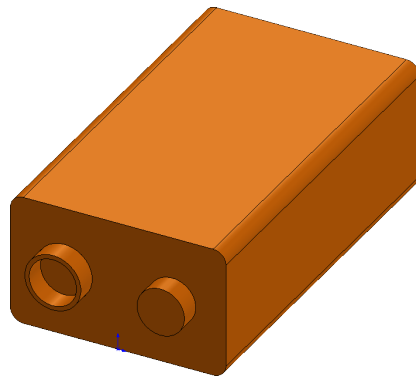


Fig. 18

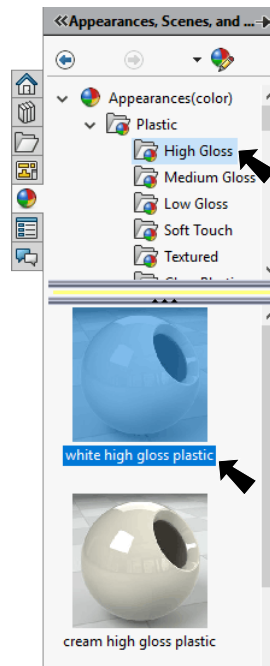


Fig. 16

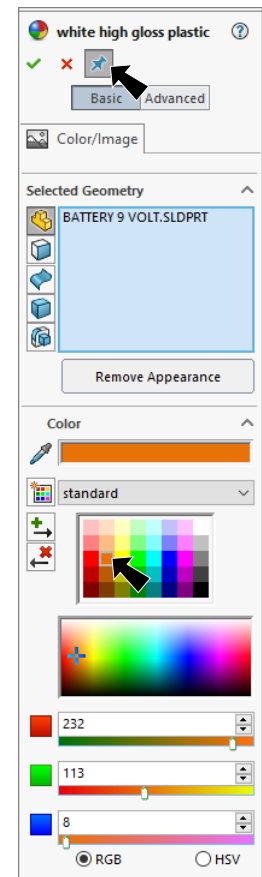



Fig. 17

Step 4. Over at the Task pane, click the **Appearances Task** tab , expand **Metal** and click **Chrome** and in the lower pane select **chromium plate**, Fig. 19

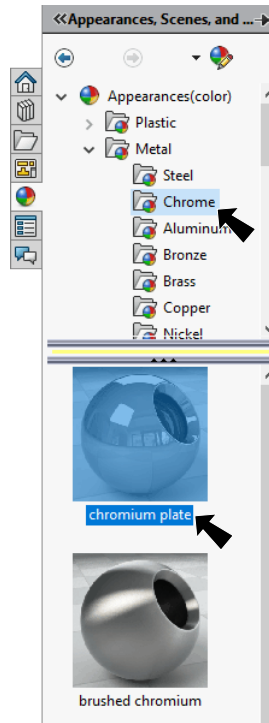



Fig. 19

Step 5. In the Appearances Property Manager, under Selected Geometry click **Select Features** , Fig. 20

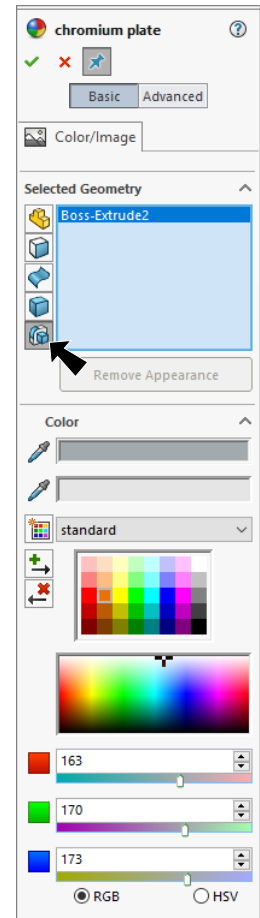




Fig. 20

click **one of the terminals**, Fig. 21  
click **OK**  and click **Cancel** .

Step 6. Save. Use **Ctrl-S**.

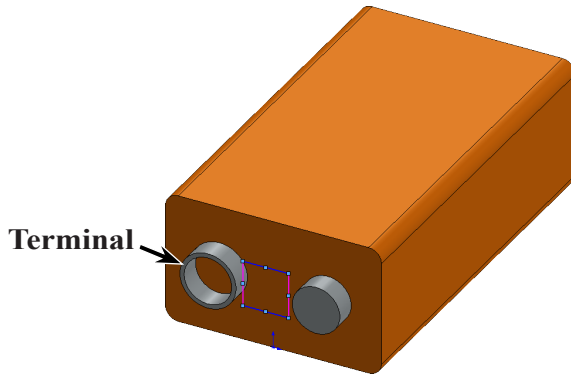


Fig. 21